

## CLAIMS

What is claimed is:

- 1           1. A polish composition comprising abrasive particles and about 0.05 to about 5  
2           % by weight of an anionic polyelectrolyte or a cationic polyelectrolyte.
- 1           2. The polish composition of claim 1 wherein the polyelectrolyte is an anionic  
2           polyelectrolyte.
- 1           3. The polish composition of claim 1 wherein the polyelectrolyte is a cationic  
2           electrolyte.
- 1           4. The polish composition of claim 1 wherein the polyelectrolyte has a molecular  
2           weight of less than about 100,000.
- 1           5. The polish composition of claim 1 wherein the polyelectrolyte has a molecular  
2           weight of about 300 to about 20,000.

*HR*  
*05/21/00*

1           6. The polish composition of claim 1 wherein the polyelectrolyte is selected from  
2 the group consisting of poly (acrylic acid), poly (methacrylic acid), poly (methyl  
3 methacrylic acid), poly (maleic acid), and poly (vinylsulfonic acid).

1           7. The polish composition of claim 1 wherein the polyelectrolyte is selected from  
2 the group consisting of poly (vinylamine), poly (ethylenimine) and poly (4-  
3 vinylpyridine).

1           8. The polish composition of claim 1 wherein the polyelectrolyte is poly (acrylic  
2 acid).

1           9. The polish composition of claim 1 wherein the polyelectrolyte is  
2 polyethylenimine.

1           10. The polish composition of claim 1 wherein the abrasive particles comprise a  
2 member selected from the group consisting of ceria, alumina, silica and zirconia.

1           11. The polish composition of claim 1 wherein the amount of the abrasive  
2 particles is about 0.1 to about 20 percent by weight.

1           12. The polish composition of claim 1 being an aqueous slurry.

1           13. A method for polishing a silicon dioxide surface in contact with a silicon  
2           nitride which comprises providing on the silicon dioxide surface a slurry comprising  
3           abrasive particles and an anionic polyelectrolyte in an amount sufficient to increase the  
4           polishing rate ratio of the silicon dioxide to the silicon nitride.

1           14. The method of claim 13 wherein the polyelectrolyte has a molecular weight  
2           of less than about 100,000.

1           15. The method of claim 13 wherein the polyelectrolyte is selected from the  
2           groups consisting of poly (acrylic acid), poly (methacrylic acid), poly (methyl  
3           methacrylic acid), poly (maleic acid), and poly (vinylsulfonic acid).

1           16. The method of claim 13 wherein the polyelectrolyte is poly (acrylic acid).

1           17. The method of claim 13 wherein the amount of the abrasive particles is about  
2           0.1 to about 20 percent by weight.

1           18. A method for polishing a metal surface which is in contact with at least one  
2 member selected from the group consisting of silicon dioxide, silicon nitride and silicon  
3 oxynitride which method comprises providing on the metal surface a slurry comprising  
4 abrasive particles and a cationic polyelectrolyte in an amount sufficient to increase the  
5 polishing rate ratio of the metal to said member.

1           19. The method of claim 18 wherein the polyelectrolyte is selected from the  
2 group consisting of poly (vinylamine), poly (ethylenimine), and poly (4- vinylpyridine).

1           20. The method of claim 18 wherein the polyelectrolyte is polyethylenimine.

1           21. The method of claim 18 wherein the metal is W, Cu or Al.